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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/614,451	07/07/2003	Toshimoto Nakagawa	07200/032001	7502

22511 7590 09/20/2005

OSHA LIANG L.L.P.  
1221 MCKINNEY STREET  
SUITE 2800  
HOUSTON, TX 77010

EXAMINER

ARANCIBIA, MAUREEN GRAMAGLIA

ART UNIT	PAPER NUMBER
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1763

DATE MAILED: 09/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/614,451	Applicant(s) NAKAGAWA ET AL.	
	Examiner Maureen G. Arancibia	Art Unit 1763	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 15 August 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>8/05</u> . | 6) <input type="checkbox"/> Other: _____  |

*u*

## DETAILED ACTION

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 15 August 2005 has been entered.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 1 and 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,062,438 to Micheletti (previously of record) in view of U.S. Patent 4,806,192 to Haas.**

Micheletti teaches a spraying apparatus (Figure 1), comprising a first solution tank 6; a first chamber 5 in which a substrate to be processed is accommodated (Figure 1); a first spray that is connected to the first solution tank 6 and sprays the solution onto the substrate in the first chamber (Column 2, Lines 34-37); a first solution line 22 that supplies the sprayed solution from the first chamber 5 to the first solution tank 6 (Column 3, Lines 1-4); a gas line 20 that supplies a mixed gas containing a solution

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component from the first chamber to outside; a gas/liquid separation block 10 that is connected to the gas line, and that separates the solution component from the introduced mixed gas (Column 2, Lines 59-66); a second chamber 7 that is connected to the first chamber 5 and where to the substrate is supplied from the first chamber (Figure 1; Column 2, Lines 34-37); a second solution tank 8; a second spray that is connected to the second tank 8 and sprays the solution onto the substrate in the second chamber 7 (Column 2, Lines 37-39); a second solution line 23 that supplies the sprayed solution from the second chamber 7 to the second tank 8 (Column 3, Lines 1-10); and a recovered solution line that is connected to the gas/liquid separation block 10 and supplies the separated solution component to the second tank 8, as broadly recited in the claim, via third chamber 9 and supply line 24. (Column 2, Lines 39-41; Column 3, Lines 7-10)

The apparatus taught by Micheletti would be inherently capable of supplying a resist stripping solution to a substrate covered in resist, since the apparatus taught by Micheletti is used to spray a liquid, and to separate that liquid from a gas component. This rejection is based on the fact the apparatus structure taught above has the inherent capability of being used in the manner intended by the Applicant. When a rejection is based on inherency, a rejection under 35 U.S.C. 102 or U.S.C. 103 is appropriate. (See *In re Fitzgerald* 205 USPQ 594 or MPEP 2112).

Micheletti does not expressly teach a line that is connected to the second tank and supplies solution to the first tank.

Haas teaches a line 29 that is connected to a second tank 6 and supplies solution to a first tank 26. (Figure 1)

It would have been obvious to one of ordinary skill in the art to modify the apparatus taught by Micheletti to provide a line that is connected to the second tank and supplies solution to the first tank, as taught by Haas. The motivation for making such a modification, as taught by Haas (Column 2, Line 31 - Column 4, Line 12), would have been to allow a reactant to be added at the second tank and then fed back in diluted form to the first tank, thus also preventing the reactant from becoming too concentrated at the second tank.

In regards to Claim 4, Micheletti teaches a gas supply unit 12 that is connected to the chambers via gas spout unit 14 and supplies gas into the chambers. (Figure 1, arrows 15, 16, 18; Column 2, Lines 50-59)

The gas supply unit taught by Micheletti would be inherently capable of supplying an inert gas. This rejection is based on the fact the apparatus structure taught above has the inherent capability of being used in the manner intended by the Applicant. When a rejection is based on inherency, a rejection under 35 U.S.C. 102 or U.S.C. 103 is appropriate. (See *In re Fitzgerald* 205 USPQ 594 or MPEP 2112).

In regards to Claims 5 and 6, Micheletti teaches that the chambers 5 and 7 are provided in multiple stages to communicate with each other (Figure 1), and that a rinse chamber 9 is provided to communicate with chamber 7, the rinse chamber being supplied with water. (Column 2, Lines 34-40) The gas/liquid separation block is connected to chamber 5 via gas line 20. The inert gas supply unit 12 is connected to

the rinse chamber 9 and the solution processing chambers 16 and 18, as broadly recited in the claim. (Figure 1, arrows 15, 16, and 18; Column 2, Lines 50-59)

The apparatus taught by the combination of Micheletti and Haas would be inherently capable of supplying either a water-based or non-water-based stripping solution, since the apparatus taught by Schroeter et al. is used to spray a liquid, and to separate that liquid from a gas component. This rejection is based on the fact the apparatus structure taught above has the inherent capability of being used in the manner intended by the Applicant. When a rejection is based on inherency, a rejection under 35 U.S.C. 102 or U.S.C. 103 is appropriate. (See *In re Fitzgerald* 205 USPQ 594 or MPEP 2112).

**4. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Micheletti in view of Haas as applied to Claim 1 above, and further in view of U.S. Patent 5,762,749 to Suzuki et al. (previously of record).**

The teachings of Micheletti and Haas were discussed above. Micheletti additionally teaches a separated gas supply unit 21 that receives gas separated from the solution component in the liquid/gas separation block and supplies the gas to a gas spout unit 14 via gas supply unit 12. (Column 2, Line 67 - Column 3, Line 1)

The combination of Micheletti and Haas does not expressly teach that at least one of the solution processing chambers includes the gas spout unit, facing the substrate.

Suzuki et al. teaches gas spout units 2 and 3 in a processing chamber 27 facing substrate 5.

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It would have been obvious to one of ordinary skill in the art to modify the apparatus of Micheletti and Haas to provide the gas spout unit facing the substrate in one of the solution processing chambers, as taught by Suzuki et al. The motivation for doing so, as taught by Suzuki et al. (Column 7, Lines 4-6), would have been to blow off any liquid still on the substrate after using the apparatus for a wet processing method.

### ***Response to Arguments***

5. Applicant's arguments with respect to claims 1-6 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Maureen G. Arancibia whose telephone number is (571) 272-1219. The examiner can normally be reached on core hours of 10-5, Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on (571) 272-1435. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Maureen G. Arancibia  
Patent Examiner  
Art Unit 1763



Parviz Hassanzadeh  
Supervisory Patent Examiner  
Art Unit 1763